

# What are the SBE sciences?

The SBE sciences explore human behavior and social organizations. They look at how economic, political, environmental, social, and cultural forces affect the lives of people from birth to old age - and how people in turn shape those forces.

SBE scientists promote the progress of science by developing and employing rigorous methods to discover fundamental principles of human behavior at levels ranging from cells to society and across space and time.

These fundamental principles studied by the SBE sciences help us understand patterns of stability, change, conflict, and cooperation that can be applied to advance the nation's health, prosperity, welfare and to secure the national defense.

In other words, SBE plays a critical role in NSF's mission.

#### What can I find in the SBE Directorate?

SBE funds a wide range of research programs. Organized into four divisions, these SBE programs support research that cuts across the human experience.



**Arthur Lupia NSF Assistant Director** Social, Behavioral, and Economic Sciences

#### Behavioral and Cognitive Sciences



- Archeology and Archaeometry
- Biological Anthropology
- Cognitive Neuroscience
- Cultural Anthropology
- Developmental Sciences
- Documenting Endangered Languages
- Geography and Spatial Sciences
- Linguistics
- Perception, Action & Cognition
- Science of Learning
- Social Psychology
- Resource Implementations for Data Intensive Research in the SBE Sciences (RIDIR)

#### Social and Economic Sciences



- Decision, Risk and Management Sciences
- Economics
- Law & Social Sciences



- Methodology, Measurement and **Statistics**
- Political Science
- Science of Organizations
- Science, Technology & Society



- Sociology
- Resource Implementations for Data Intensive Research in the SBE Sciences (RIDIR)

#### Office of Multidisciplinary Activities



- SBE Postdoctoral Research Fellowships
- Science of Science and Innovation
- Research Experiences for **Undergraduates**

## National Center for Science and Engineering Statistics



The Nation's leading source of data and information on the U.S. Science and Engineering Enterprise, including statistics on the workforce, educational pathways, research and development funding and performance, and innovation and outcomes.



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# Cross-directorate research

In addition to its own research programs, SBE collaborates with other NSF directorates on cross-disciplinary programs. Social and behavioral scientists bring unique perspectives and ask important questions about the human elements related to topics from biological engineering to computer science. Here are some examples of these cross-directorate activities:



NSF's **Understanding the Brain** portfolio seeks to enable scientific understanding of the full complexity of the brain. Activities promise to enhance our ability to predict how interactions between brain function and our physical and social environment enable complex behavior.



The Innovations at the Nexus of Food, Energy and Water Systems (INFEWS) Program focuses on projects that can help determine how society can best provide for a growing demand for food, water and energy while maintaining appropriate ecosystem services.



The Cultivating Cultures for Ethical STEM Program (CCE STEM) funds research projects that identify factors that are efficacious in the formation of ethical Science, Technology, Engineering and Mathematics researchers in all NSF-supported fields of science and engineering.



The Secure and Trustworthy Cyberspace Program (SaTC) aims to achieve a truly secure cyberspace by addressing challenging scientific and engineering problems involving many components of a system alongside vulnerabilities that arise from human behaviors and choices.



The Dynamics of Integrated Socio-Environmental Systems Program (CNH2), an update of the CNH Program, supports research to advance understanding of integrated socio- and environment-systems and their complex interactions.



The Major Research Instrumentation Program (MRI) increases access to shared scientific and engineering instruments at higher education institutions, not-for-profit museums, science centers and science and engineering research organizations.

## NSF's Big Ideas with Significant SBE Involvement:

- ► The Future of Work at the Human-Technology Frontier: Understanding how evolving technologies are shaping the lives of workers and how people in turn shape these technologies, especially in the world of work.
- ► Harnessing the Data Revolution: Fundamental research in data science and engineering toward the development of a cohesive, federated, national-scale approach to research data infrastructure, and data-capable workforce.
- Navigating the New Arctic: Establishing an observing network, research, and tools across the Arctic to document and understand the Arctic's rapid changes including those that impact communities in the Arctic and beyond.
- ▶ Understanding the Rules of Life: Elucidating the sets of rules that predict an organism's observable characteristics, its phenotype.
- NSF INCLUDES (Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science): Enhancing STEM through Diversity and Inclusion

#### **Funding opportunities from SBE**

SBE provides approximately two-thirds of the federal funding to American colleges and universities for basic research in the social, behavioral, and economic sciences. There are several paths to SBE support.

- **Senior Research Awards:** These grants normally support research for Ph.D.-level investigators. Proposals are evaluated through NSF's merit review process, as outlined in the Proposal Award Policies & Procedures Guide, available online.
- **EAGER:** Early-Concept Grants for Exploratory Research awards support exploratory work in its early stages on untested, but potentially transformative, research ideas or approaches. This work could be considered especially "high risk-high payoff."
- GOALI: Grant Opportunities for Academic Liaisons with Industry.
- **RAPID:** The Grants for Rapid Response Research funding mechanism is used for proposals having severe urgency with regard to availability of or access to data, facilities or specialized equipment, including quick-response research on disasters.
- RAISE: Research Advanced by Interdisciplinary Science and Engineering.
- Awards for Conferences: NSF supports conferences in special areas of science and engineering that bring experts together to discuss recent research or share education techniques.
- Dear Colleague Letters: These letters provide information about upcoming opportunities or existing programs.
- **CAREER:** Faculty Early Career Development Program awards offer the National Science Foundation's most prestigious awards in support of junior faculty who exemplify the role of teacher-scholars.
- Special Solicitations: These encourage the submission of proposals in specific program areas of interest to NSF.
- Student Support: Doctoral Dissertation Research Improvement Grants (DDRIG), Research Experiences for Undergraduates (REU), and NSF's Graduate Research Fellowship Program (GRFP).